

ICNIRP Measurement Report

This report presents the results of measurements of electromagnetic field emission levels in the vicinity of mobile base stations. Results are presented as percentages of the power density reference levels for general public exposure in the 1998 edition of the Guidelines published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP)¹, with figures provided for individual frequency bands used for base station (downlink) transmissions as well as an overall figure for all other frequency bands between 30 MHz to 6 GHz. The total percentage equals the sum of all individual percentages.

The power density reference levels in the ICNIRP Guidelines are the root mean square (rms) values averaged over six minutes. In this report, we have measured the average E-field strength over a six-minute period in each measurement location.

We have applied a measurement threshold of 3dB above the system noise floor² of the measurement equipment, below which any E-field strength levels measured are deemed not sufficiently above the system noise floor to be valid. In the results tables below, measurement results are shown to a precision of four decimal places. Results which are not sufficiently above the system noise floor to record as a valid measurement are shown as a dash (-). Results which are too small to register to four decimal places are shown as 0.0000%.

Date of Survey:	20/11/2025	Time Survey completed:	11:37
Survey address:	Antrim BT41		

	Measurement equipment	Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240264	30/01/2025
Probe	Agos Aria-6000 Antenna	6000-1112	08/07/2025
Cabling	1.7m cable	1314	08/07/2025

¹ <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>

² The noise floor of the measurement equipment is the level of background noise that is present before detecting any external signals. In other words, it indicates the absolute minimum level of detectable signals.

Broadcast bands covered by this report

Frequency Band	Frequency Range	Technology*
	87.5-108 MHz	FM Radio
	174-230 MHz	DAB
	470-694 MHz	Digital TV

Mobile bands covered by this report

Frequency Band	Frequency Range	Technology*
700 MHz	738-788 MHz	4G, 5G
800 MHz	791-821 MHz	4G
900 MHz	925-960 MHz	2G, 3G, 4G
1400 MHz	1452-1492 MHz	4G (Supplementary downlink)
1800 MHz	1805-1880 MHz	2G, 4G
1900 MHz	1900-1920 MHz	4G
2100 MHz	2110-2170 MHz	3G, 4G
2300 MHz	2350-2390 MHz	4G
2600 MHz TDD	2570-2620 MHz	4G
2600 MHz FDD	2620-2690 MHz	4G
3.4 GHz	3410-3680 MHz	5G, 4G
3.8 GHz	3680-4200 MHz	Various
Others**		

* This is an indication of the type of technologies typically deployed in these bands; not all frequency bands and technologies may be in use at all locations. ** All other frequencies between 30 MHz and 6 GHz.

Survey locations

The survey was conducted within the area shown in the map below. Measurements were taken at six locations and are presented in the following pages of this report.



Location 1

Measurement time:	10:50
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00838
174-230 MHz	0.00782
470-694 MHz	0.00608
700 MHz	0.00092
800 MHz	0.00104
900 MHz	0.00055
1400 MHz	0.00027
1800 MHz	0.00033
1900 MHz	0.00012
2100 MHz	0.00039
2300 MHz	0.00028
2600 MHz TDD	0.00028
2600 MHz FDD	0.00014
3.4 GHz	0.00113
3.8 GHz	0.00279
Others	0.10473
Total	0.13524

Location 2

Measurement time:	10:57
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00853
174-230 MHz	0.00785
470-694 MHz	0.00607
700 MHz	0.00095
800 MHz	0.00734
900 MHz	0.00126
1400 MHz	0.00027
1800 MHz	0.00033
1900 MHz	0.00012
2100 MHz	0.00067
2300 MHz	0.00028
2600 MHz TDD	0.00033
2600 MHz FDD	0.00014
3.4 GHz	0.00114
3.8 GHz	0.00288
Others	0.10550
Total	0.14366

Location 3

Measurement time:	11:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00826
174-230 MHz	0.00770
470-694 MHz	0.00599
700 MHz	0.00147
800 MHz	0.00364
900 MHz	0.03366
1400 MHz	0.00026
1800 MHz	0.00038
1900 MHz	0.00011
2100 MHz	0.00157
2300 MHz	0.00027
2600 MHz TDD	0.00062
2600 MHz FDD	0.00014
3.4 GHz	0.00111
3.8 GHz	0.00280
Others	0.10344
Total	0.17142

Location 4

Measurement time:	11:14
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00800
174-230 MHz	0.00757
470-694 MHz	0.00588
700 MHz	0.00220
800 MHz	0.01782
900 MHz	0.03676
1400 MHz	0.00026
1800 MHz	0.00041
1900 MHz	0.00011
2100 MHz	0.00446
2300 MHz	0.00026
2600 MHz TDD	0.00187
2600 MHz FDD	0.00013
3.4 GHz	0.00106
3.8 GHz	0.00277
Others	0.10493
Total	0.19448

Location 5

Measurement time:	11:22
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00794
174-230 MHz	0.00747
470-694 MHz	0.00588
700 MHz	0.00392
800 MHz	0.05000
900 MHz	0.02961
1400 MHz	0.00026
1800 MHz	0.00035
1900 MHz	0.00011
2100 MHz	0.00190
2300 MHz	0.00027
2600 MHz TDD	0.00067
2600 MHz FDD	0.00013
3.4 GHz	0.00107
3.8 GHz	0.00273
Others	0.10190
Total	0.21421

Location 6

11:31	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00813
174-230 MHz	0.00745
470-694 MHz	0.00584
700 MHz	0.00269
800 MHz	0.06977
900 MHz	0.03173
1400 MHz	0.00026
1800 MHz	0.00033
1900 MHz	0.00011
2100 MHz	0.00168
2300 MHz	0.00026
2600 MHz TDD	0.00055
2600 MHz FDD	0.00013
3.4 GHz	0.00106
3.8 GHz	0.00267
Others	0.09994
Total	0.23259

Disclaimer: The results detailed in this report apply only to the tests made at the reported time, using the test equipment detailed. They do not indicate that on another date an identical set of results would be achieved, due to changes in local environmental conditions or other factors which may or may not have an effect on the measurement results obtained at that future time.